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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/656,683 09/07/00 KNOX

D 104-22663

MMC2/1024

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EXAMINER

LE, D

ART UNIT

PAPER NUMBER

2834

DATE MAILED:

10/24/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/656,683

Applicant(s)

KNOX, DICK LEE

Examiner

Dang D Le

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 September 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3. 6) ☐ Other: ____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3, 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beavers et al. in view of Balsells.

Regarding claim 1, Beavers et al. show in an elongated electric motor (Figure 1) for a submersible pump having a cylindrical housing (13), a stator (15) mounted in the housing for producing a magnetic field when supplied with electrical power, a rotatable shaft (21) installed within the stator, a rotor (17) comprised of spaced apart rotor sections mounted to the shaft, an improved bearing assembly mounted between two of the adjacent rotor sections for supporting the shaft, comprising in combination:

- A stationary bearing body (25) that rotatably receives the shaft, the bearing body having a cylindrical outer periphery with a cavity (39) extending to the outer periphery of the bearing body; and
- A corrugated spring member (41) contained in the cavity, having an outer portion that frictionally engages an inner wall of the stator, preventing rotation of the bearing body and stabilizing the shaft.

Beavers et al. do not show the spring member being a coiled member.

Balsells shows the spring member being a coiled member (22) for the purpose of reducing wear.

Since Beavers et al. and Balsells are all from the same field of endeavor, the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use a coiled member as taught by Balsells for the purpose discussed above.

Regarding claim 3, it is noted that Balsells also shows the coiled member (22) being a continuous coiled element extending entirely around the outer periphery of the bearing body (12).

Regarding claim 6, it is noted that Balsells also shows the cavity extending circumferentially along the outer periphery of the bearing body, and the coiled member having centerline that extends circumferentially around the bearing body.

Regarding claim 7, it is noted that Balsells also shows the coiled member having a radial dimension from an inner portion to the outer portion that is greater than a radial dimension from a base of the cavity to the inner wall of the stator while the coiled member is in an undeflected state (Figure 1).

3. Claims 2, 5, 8, 9 and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beavers et al. in view of Balsells as applied to claim 1 above, and further in view of Nogle.

Regarding claim 2, the motor of Beavers et al. modified by Balsells includes all that is recited in the claimed invention except for the coiled member being made of a metallic material.

Nogle shows the coiled member (30) being made of a metallic material (steel) for the purpose of increasing spring rates.

Since Beavers et al., Balsells and Nogle are all from the same field of endeavor, the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to make the coiled member of a metallic material as taught by Nogle for the purpose discussed above.

Regarding claim 5, it is noted that Nogle also shows the coiled member being circular in cross-section and having a cross-sectional diameter greater than a radial depth of the cavity (Figure 1).

Regarding claim 8, Beavers et al. show an elongated electric motor, comprising in combination:

- A cylindrical housing (13);
- A stator (15) mounted in the housing for producing a rotating field when supplied with electrical power;
- A rotatable shaft (21) installed within the stator;
- A rotor (17) comprised of spaced-apart rotor sections mounted on the shaft;

- A stationary bearing body (25) that rotatably receives the shaft and is located between two of the rotor sections, the bearing body having a cylindrical outer periphery provided with a cavity (39) extending circumferentially along the outer periphery of the bearing body; and
- A spring member (41) contained in the cavity with an outer portion that extends circumferentially along the outer periphery of the bearing body and frictionally engages an inner wall of the stator, preventing rotation of the bearing body and stabilizing the shaft.

Beavers et al. do not show the coiled member being metallic and the coiled member being circular in cross section with a cross-sectional diameter greater than a radial depth of the cavity.

Balsells shows the coiled member (22) with a cross-sectional diameter greater than a radial depth of the cavity for the purpose of reducing wear.

Nogle shows the coiled member (30) being metallic and circular in cross section for the purpose of increasing spring rates.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the coiled member being metallic and the coiled member being circular in cross section with a cross-sectional diameter greater than a radial depth of the cavity as respectively taught by Nogle and Balsells for the purposes discussed above.

Regarding claim 9, it is noted that Balsells also shows the coiled member being a continuous coiled element extending entirely around the outer periphery of the bearing body.

Regarding claim 11, it is noted that Balsells also shows the cross-sectional diameter of the coiled member while undeflected being greater than the radial dimension from a base of the cavity to the stator inner wall.

Regarding claim 12, Beavers et al. show an improved bearing assembly for mounting between adjacent rotor sections of an elongated electric motor having a stator, a rotatable shaft installed within the stator, and a rotor comprised of spaced apart rotor sections mounted to the shaft, the bearing assembly comprising in combination:

- A stationary bearing body (25) adapted to rotatably receive the shaft (21), the bearing body having a cylindrical outer periphery with a circumferentially extending cavity (39) therein, the cavity having an outward facing base; and
- A spring member (41) contained in the cavity.

Beavers et al. do not show a metallic coiled member contained in the cavity, the coiled member having a circular cross section with a cross-sectional diameter greater than a radial dimension of the cavity, having an inner portion in contact with the base and an outer portion protruding past the outer periphery for contact with the stator.

Balsells shows a coiled member (22) contained in the cavity with a cross-sectional diameter greater than a radial dimension of the cavity, having an inner portion in contact with the base and an outer portion protruding past the outer periphery for contact with the stator for the purpose of reducing wear.

In addition, Nogle shows the coiled member being metallic and having a circular cross section for the purpose of increasing spring rates.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the coiled member being metallic and the coiled member being circular in cross section with a cross-sectional diameter greater than a radial depth of the cavity as respectively taught by Nogle and Balsells for the purposes discussed above.

Regarding claim 13, it is noted that Balsells also shows the coiled member being a continuous coiled element extending entirely around the outer periphery of the bearing body.

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Beavers et al. in view of Balsells as applied to claim 1 above, and further in view of Ide.

Regarding claim 4, the motor of Beavers et al. modified by Balsells includes all that is recited in the claimed invention except for the coiled member comprising a plurality of coiled member segments that are spaced apart from each other around the outer periphery of the bearing body.

Ide shows the wheel member (37) comprises a plurality of wheel member segments that are spaced apart from each other around the outer periphery of the bearing body (Figure 2) for the purpose of balancing the sliding support.

Since Beavers et al., Balsells and Ide are all from the same field of endeavor, the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to make the coiled member with a plurality of coiled member segments that are spaced apart from each other around the outer periphery of the bearing body as taught by Ide for the purpose discussed above.

5. Claims 10 and 14 rejected under 35 U.S.C. 103(a) as being unpatentable over Beavers et al. in view of Balsells and Nogle as respectively applied to claims 8 and 12 above, and further in view of Ide.

Regarding claims 10 and 14, the motor of Beavers et al. modified by Balsells and Nogle includes all that is recited in the claimed invention except for the coiled member comprising a plurality of coiled member segments that are spaced apart from each other around the outer periphery of the bearing body.

Ide shows the wheel member (37) comprises a plurality of wheel member segments that are spaced apart from each other around the outer periphery of the bearing body (Figure 2) for the purpose of balancing the sliding support.

Since Beavers et al., Balsells, Nogle and Ide are all from the same field of endeavor, the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to make the coiled member with a plurality of coiled member segments that are spaced apart from each other around the outer periphery of the bearing body as taught by Ide for the purpose discussed above.

Information on How to Contact USPTO

Art Unit: 2834

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dang D Le whose telephone number is (703) 305-0156. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3431 for regular communications and (703) 305-3431 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

DDL
October 22, 2001

DL

Dang D Le